



LANCASTER UNIVERSITY
SCHOOL OF MATHEMATICS

CARDINAL
NEWMAN
COLLEGE

Lancaster
University



www.lusom.ac.uk

01772 460 181



RIGBY
EDUCATION
TRUST

LANCASTER UNIVERSITY SCHOOL OF MATHEMATICS PROSPECTUS 2022/23



If you have any further questions
call us on 01772 460181
or email hello@lusom.ac.uk

Follow us on Twitter



@lusom_

Contents

Welcome 04

What is Lancaster University
School of Mathematics? 05

Ethos and Values 08


What makes us different? 09

Our Curriculum 11

Beyond the Curriculum 13

6 Reasons why you should join LUSoM 15

Location and Travel 17



“Challenge yourself in a
supportive environment
where all students have
an interest in maths.”

Find $\frac{dy}{dx}$, simplifying your answer in each case.

a $y = x(2x - 1)^3$
d $y = x^2 \ln(x + 6)$
g $y = x^{\frac{1}{2}} e^{3x}$

b $y = 3x^4 e^{2x+3}$
e $y = x(1 - 5x)^4$
h $y = (x + 1) \ln x$

Welcome

Lancaster University School of Mathematics is for those students with an exceptional aptitude and passion for mathematics.

LUSoM is a distinct and unique specialist provider of outstanding mathematics teaching for students wanting to immerse themselves in a small close-knit community of like-minded scholars. With our exceptional teaching, high quality environment and resources with undergraduate-level content, our aim is to ensure young mathematicians thrive, throughout their two years with us.

“We want to be able to give North West students the best possible education and experiences and feel LUSoM will provide a fantastic opportunity for mathematicians to thrive.”

– Nick Burnham, Executive Principal

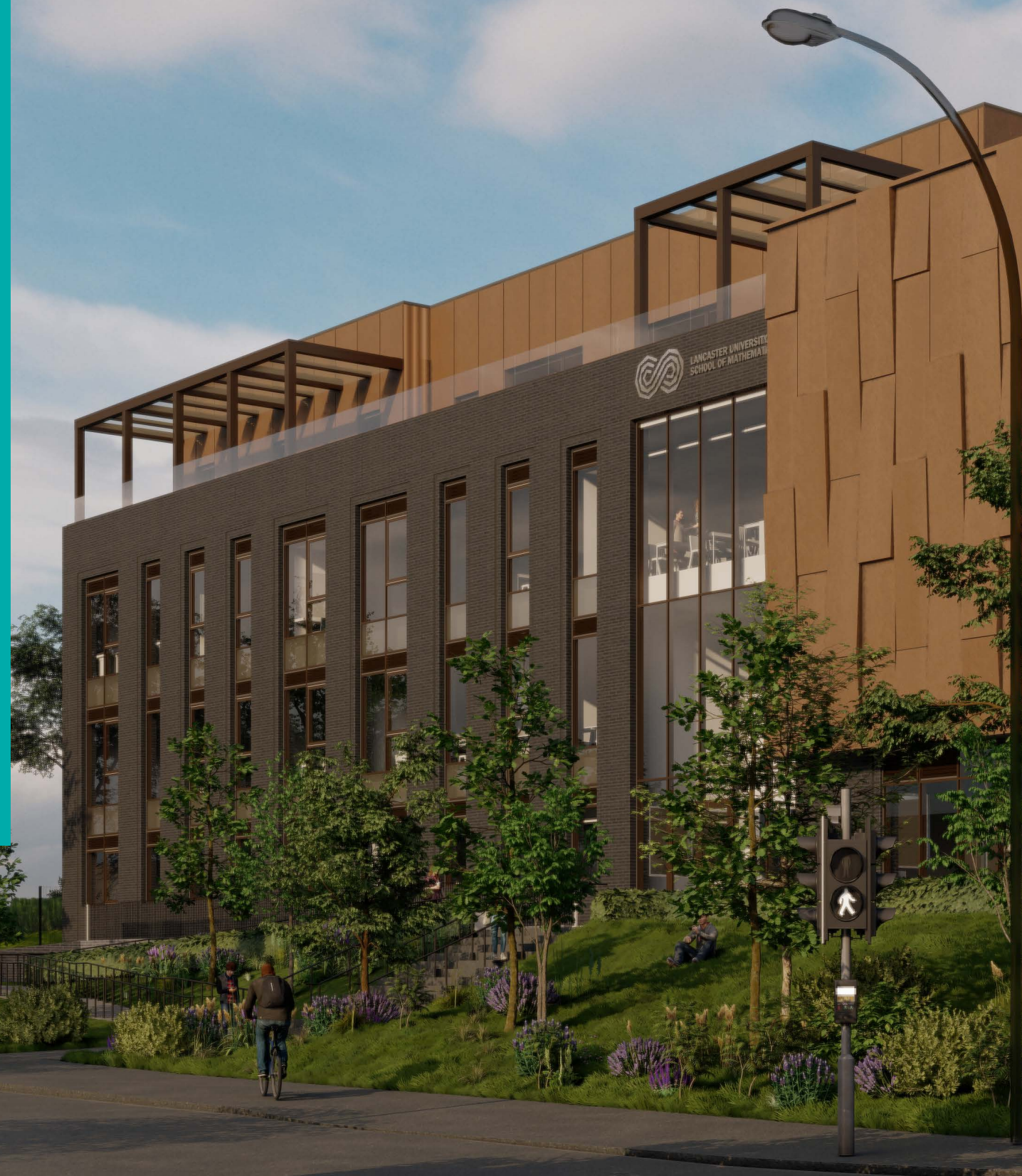
“We are proud to have developed the Lancaster University School of Mathematics in collaboration with Cardinal Newman College, one of the highest-performing Sixth Form Colleges in the country. The School of Maths is for all students with a passion for maths, whatever their background, unlocking potential and setting them on their way towards successful STEM careers. Lancaster University will work with the School of Maths to enhance its curriculum and support transition from school to undergraduate studies, whether at Lancaster or another top UK university.”

– Professor Alex Belton, Head of the Department of Mathematics and Statistics at Lancaster University

What is Lancaster University School of Mathematics?

Opening in September 2022, Lancaster University School of Mathematics (LUSoM) will recruit the brightest and most talented maths pupils from across Lancashire, whatever their background, and bring them into an inclusive community of other exceptional pupils.

LUSoM is part of the Rigby Education Trust, sponsored by Lancaster University and partnered with Cardinal Newman College. It is a designated Maths School, as supported by the Department for Education (DfE), with an extensive outreach programme supporting maths education in surrounding high schools. It will widen participation for mathematically able students from disadvantaged backgrounds to help them fulfil their potential.





Ethos and Values

“Our vision is to provide an environment where an increasing number of world-class mathematicians thrive and go on to contribute, through mathematics, to the productivity of the UK economy.

Our mission is to enable the most able mathematicians from all backgrounds to realise their potential within an inspiring, inclusive and supportive learning community.”

The Lancaster University School of Mathematics will offer access to able young people within the surrounding areas access to world-class preparation for entry into mathematics-based university education at a standard which is unavailable within the mainstream state school system.

LUSoM will aim to share best practice throughout the region, raising achievement and aspirations for all through our outreach programme. Our outreach programme is accessible to all high schools in the region, with activities ranging from master classes and teacher INSET to mentoring individuals and sharing online resources.

What Makes us Different?

For some school pupils, being naturally gifted in maths and science subjects can set them apart for the wrong reasons. A specialist Maths School brings together these talented individuals and creates a vibrant community where they are actively encouraged to explore the subjects they love. The curriculum is extended beyond the standard Mathematics A-Level to provide a stretching and inspiring education delivered by LUSoM staff.

Lancaster University School of Mathematics will create an inclusive community where an increasing number of the most able mathematicians from all backgrounds will be supported to thrive.

There will be an extensive programme of maths-based extension and enrichment activities, alongside other non-academic enrichment offered in partnership with Cardinal Newman College. Students will be guided towards progressing onto degree courses within a mathematics or STEM-related subject area and there will be a wide programme of residentials and specialist events.

Students who attend and successfully complete their studies at Lancaster University School of Mathematics will be guaranteed an offer for nominated degree programmes at Lancaster University, provided they meet the entry requirements.

All students will specialise in Maths and Further Maths A-Levels. They will also be able to study a third and fourth A-Level taught at LUSoM or Cardinal Newman College.



Our Curriculum

Our curriculum is designed to push the boundaries of A-Level Mathematics for talented 16-19 year olds with a passion for maths and STEM subjects. Taught by specialist LUSoM staff in brand new facilities, you will study A-Levels in Mathematics and Further Mathematics and then choose your third and fourth A-Level from either the subjects taught at LUSoM or at Cardinal Newman College. The subjects you choose should be equivalent to 4 A-Levels.

A-Level Mathematics

Mathematics A-Level is a fantastic subject, which offers you the opportunity to develop your logic, reasoning and problem-solving skills through the study of both Pure Maths, such as algebra, geometry and functions with Applied Maths modules.

A-Level Further Mathematics

Further Maths A-Level at LUSoM provides you with the opportunity to develop some of the concepts met in the A-Level Maths course as well as study a greater variety of applications. If you thoroughly enjoy the subject and are keen to extend your understanding and knowledge, then this course will provide the chance to study some more demanding and abstract concepts.

A-Level Physics

A Physics A-Level is highly regarded by employers and universities. From particle physics, thermal physics to nuclear physics, our A-Level will develop your theoretical ideas, logical analysis and problem solving skills.

A-Level Computer Science

A-Level Computer Science is designed to offer you a solid foundation in computing. From the fundamentals of programming, to theory of computation, an A-Level in Computer Science will support you in meeting the demands of the many careers available to you.

A-Level Chemistry

The analytical, mathematical, investigative, research, decision making and problem solving skills developed by studying A-Level Chemistry are highly transferable skills and sought by a range of employers.

To find out more about our courses visit lusom.ac.uk

Studying at Lancaster University School of Mathematics will bring you into a community of like-minded individuals where you will feel comfortable pursuing your love of maths while being encouraged to experiment and grapple with exciting and unusual maths challenges.

You will be tested in many ways – you won't just be sat in a classroom at LUSoM. Our curriculum blends classroom teaching with opportunities to network and learn from industry experts as well as spend time at Lancaster University getting a feel for university level mathematics.

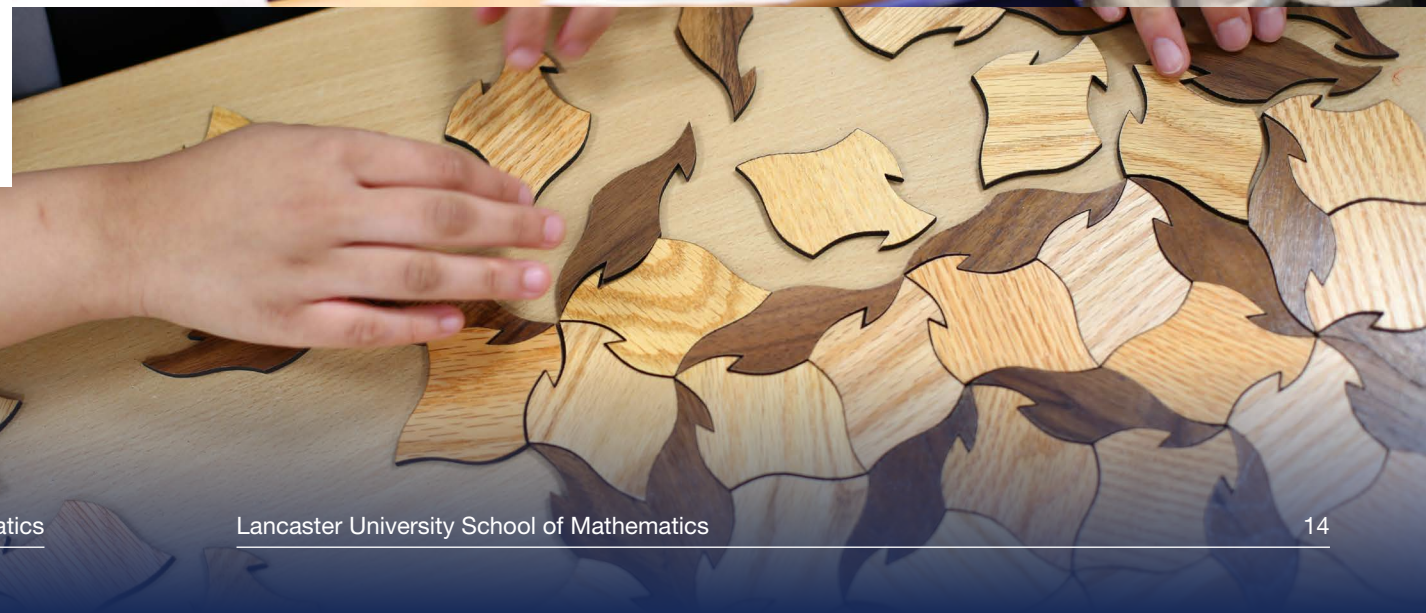
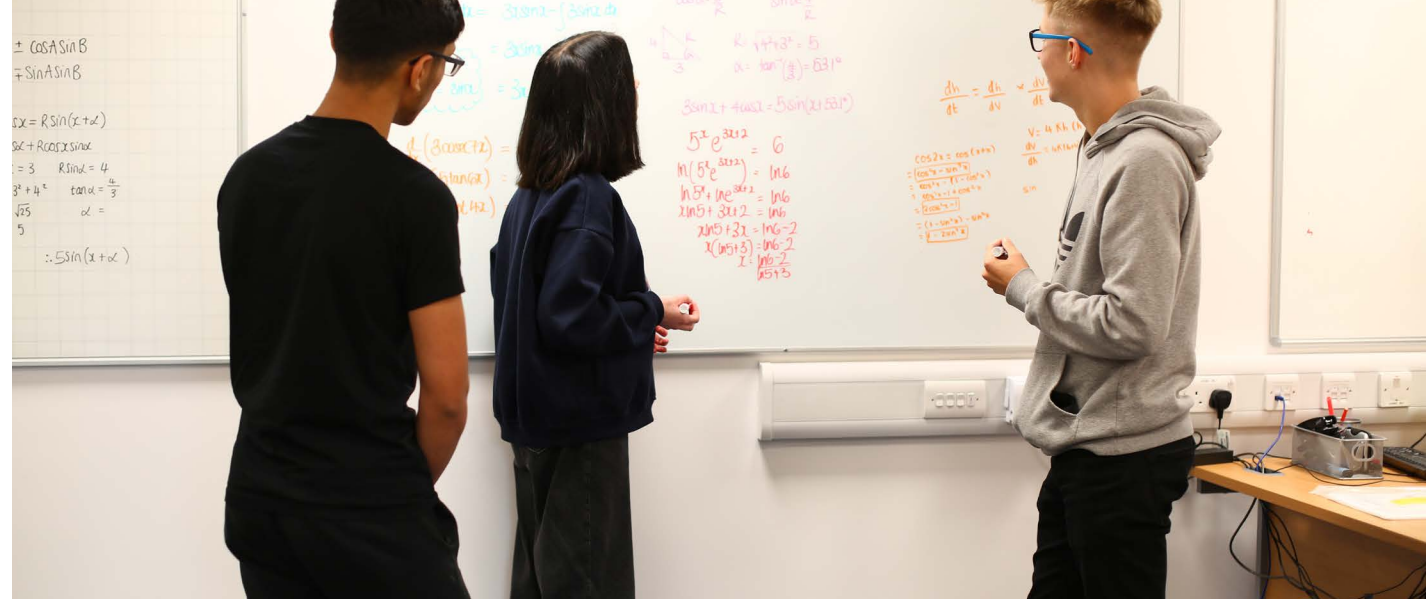
Beyond the Curriculum

Curriculum Plus is time dedicated for you to meet with staff who will provide support tailored to your individual needs. We want to help you explore your subjects with confidence as you gain a deeper understanding of them. These sessions will be encouraging and will support you in learning an extended range of mathematical skills.

What makes LUSoM really stand out from the standard Maths A-Level is our enrichment programme. With exciting opportunities to gain experience in high-level mathematics projects and initiatives, this is a chance to learn from our partners in industry and academia, make new connections, and broaden your application of maths to the outside world.

You can enjoy a range of enrichment activities embedded into the curriculum that give you the opportunity to solve mathematical problems outside of your formal lessons. These activities include Summer Schools hosted by academic experts, subject masterclasses, termly seminars to develop your mathematical thinking toolbox, and presentations from members of Lancaster University to engage you in cutting-edge topics, problems and challenges.

You will also benefit from, and have access to, the full range of extracurricular activities with peers at Cardinal Newman College. These will include The Duke of Edinburgh's Award, theatre productions and musical opportunities including band and choir groups and a variety of sporting activities.



6 Reasons Why You Should Join LUSoM

- 1** A welcoming community, where teachers and students strive to improve their mathematical knowledge.
- 2** Be involved in exciting lessons, interactive learning and open intelligent discussions.
- 3** Study towards your place at university or to work in a mathematical field with the brightest mathematicians.
- 4** A challenging and rewarding environment, encouraging you to achieve your potential.
- 5** Opportunity to collaborate with your peers and work alongside other highly able and like-minded students.
- 6** You will gain invaluable skills, such as independence and resilience, which are required for success in higher education and future careers.

Application Timeline



Location and Travel



LANCASTER UNIVERSITY
SCHOOL OF MATHEMATICS



Getting to LUSoM couldn't be easier. We are situated on London Road, Preston, with excellent transport links from across Lancashire. Find out more about getting to LUSoM at our website lusom.ac.uk

We are just a 10 minute walk from Preston bus station, and on a bus route with a stop right outside our building.

In association with Cardinal Newman College, our bus passes offer LUSoM students flexibility in use, with the majority being valid at weekends and during the holidays.